

**REMARKS**

The Office Action mailed November 3, 2004 has been carefully considered.

Reconsideration in view of the following remarks is respectfully requested.

**Rejection(s) Under 35 U.S.C. § 102**

Claims 1 – 3 and 14 – 17 were rejected under 35 U.S.C. § 102(b) as anticipated by Friddell (U.S. pat. no. 4,974,247).

Exemplary Claim 1 of the instant application has been amended to read as follows:

A method for detecting concealed items on or in an object, the method comprising:

producing a pencil beam of x-rays from an x-ray source directed toward said object;

scanning said beam of x-rays over the surface of said object; and

detecting x-rays scattered from said beam of x-rays as a result of interacting with said object and a low Z material panel, said object located between said detector and said panel, said detecting comprising differentiating x-rays back scattered by the object from those back scattered by the low Z material panel,

wherein said pencil beam of x-rays is of sufficiently low energy to avoid detection if passing through the object after backscattering by the Z material panel.

According to the Office Action, the Claim 1 limitation “differentiating x-rays back scattered by the object from those back scattered by the low Z material panel” is disclosed in Friddell because Friddell teaches that “A portion of the radiation . . . interacts with object 16 and is backscattered by the object in a second direction” (Friddell, col. 5 line 5, l. 67 – col. 5, l. 4), and backscattered radiation is used “to generate a radiographic image of the object.” (Friddell, col. 1, ll. 13 – 14). From this, the Office Action concludes:

Friddell discloses a known method which is the radiation backscattered from the object is detected for those areas covered by the object, the radiation backscattered from the low Z material is also detected. From these results, the radiation image is differentiated.

Applicants respectfully disagree. Simply because Friddell detects both backscattered radiation from the object and from the illuminator 32 does not mean that Friddell is *differentiating* between these two. Friddell seeks to obtain a stronger signal for imaging purposes, and augments information derived from the object with that from the illuminator behind the object to thereby collect enough information to construct an image of the object “beyond the quality of image obtained when only response signals generated from backscatter radiation are used.” (Friddell, paragraph bridging cols. 1 and 2). Friddell relies on backscatter from both the object and the illuminator to produce this image, stating that:

The detection means is operative to receive first backscattered (compton scattered and fluorescent radiation) radiation traveling in the second direction from illuminator 32 through object 16 at the inspecting location, and operative to receive second backscattered radiation interacting with object 16.

Importantly, the radiation from the illuminator 32 in Friddell passes through the object in a first pass, is reflected by the illuminator, and again passes through the object in a second pass before being detected. The energy required for these two passes through the object is necessarily high, twice exposing the object to high doses of X-rays or Gamma rays, which, in the case of a human being, would be very harmful. The reason Friddell can take that risk is because the object with which Friddell is concerned does not appear to be an airport passenger, but an industrial component such as a large box or aircraft wing or fuselage, likely undergoing structural integrity assessment. (Friddell, col. 1, lines 55 – 58).

Because augmenting the backscattered radiation from the object with that from the illumination is different from differentiating the two, Friddell fails to disclose all the limitations of Claim 1 (and Claims 14 and 15), and therefore cannot anticipate these claims.

It will be noted that the independent claims have been amended to further state that the “pencil beam of x-rays is of sufficiently low energy to avoid detection if passing through the object after backscattering by the Z material panel.” Support for this limitation can be found in FIGS. 5 and 6, which show object 12 as it would be detected when the “pencil beam of x-rays is of sufficiently low energy to avoid detection if passing through the object after backscattering by the Z material panel.” It will be appreciated that if this condition were not satisfied—that is, if the pencil beam of x-rays had enough energy to be detectable after passing through the object and backscattering by the Z material panel—then the leg of the man (object 12) in FIG. 5 would be indistinguishable from the Z material panel 502. Therefore this feature is supported in the disclosure and does not constitute new matter.

As discussed above, Friddell also fails to disclose this feature, because Friddell relies on radiation backscattered by the illuminator 32 after twice passing through the object 16 in order to collect sufficient information to form an image of the object.

It will be appreciated that, according to the M.P.E.P., a claim is anticipated under 35 U.S.C. § 102(b) only if each and every claim element is found, either expressly or inherently described, in a single prior art reference.<sup>1</sup> The aforementioned reasons clearly indicate the contrary, and withdrawal of the 35 U.S.C. § 102(b) rejection based on Friddell is respectfully urged.

#### **Rejection(s) Under 35 U.S.C. § 103 Rejection**

Claims 4 – 13 and 18 - 27 were rejected under 35 U.S.C. § 103(a) as unpatentable over Friddell. However, Friddell fails to suggest the aforementioned missing claimed features. The rejection of Claims 4 – 13 and 18 - 27 under 35 U.S.C. § 103(a) based on Friddell is therefore improper and should be withdrawn.

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<sup>1</sup> Manual of Patent Examining Procedure (MPEP) § 2131. See also *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

**Conclusion**


In view of the preceding discussion, Applicants respectfully urge that the claims of the present application define patentable subject matter and should be passed to allowance. Such allowance is respectfully solicited.

If the Examiner believes that a telephone call would help advance prosecution of the present invention, the Examiner is kindly invited to call the undersigned attorney at the number below.

Please charge any additional required fee, including those necessary to obtain extensions of time to render timely the filing of the instant Reply, or credit any overpayment not otherwise paid or credited, to our deposit account No. 50-1698.

Respectfully submitted,  
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